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AMENDMENTS TO THE CLAIMS:

1. (Presently Amended) A process for making a thin film ZnO/Cu(InGa)Se_2 solar cell without depositing a buffer layer and by Zn doping from a vapor phase, comprising:

a) depositing Cu(InGa)Se_2 layer on a metal back contact deposited on a glass substrate;

b) heating the Cu(InGa)Se_2 layer on said metal back contact on said glass substrate to a temperature range between about 100°C to about 250°C;

c) subjecting the heated layer of Cu(InGa)Se_2 to an evaporant species from Zn acetate dihydrate to dope the Cu(InGa) Se_2 with Zn and form a ZnO deposit and etching with acetic acid in an amount of ~~about~~ 50% by volume in water to remove the ZnO deposit; and

d) sputter depositing ZnO on the Zn ~~compound~~ acetate dihydrate evaporant species treated layer of Cu(InGa)Se_2.

2. The process of claim 1 wherein said metal back contact is Mo.

3. (Cancelled)

4. (Cancelled)

5. (Presently Amended) The process of claim ~~3~~ 2 wherein in step c) the heated layer of Cu(InGa)Se_2 is subjected to said evaporant species from said ~~compound~~ zinc acetate dihydrate under a vacuum.

6. (Presently amended) The process of claim ~~4~~ 5 wherein the substrate temperature is about 100°C during said heating.

7. (Presently amended) The process of claim ~~4~~ 5 wherein the substrate temperature is about 150°C during said heating.

8. (Presently amended) The process of claim ~~4~~ 5 wherein the substrate temperature is about 200°C during said heating.

9. (Presently amended) The process of claim ~~4~~ 5 wherein the substrate temperature is between 200°C and 250°C during said heating.

10. (Cancelled)

11. (Cancelled)

12. (Cancelled)

13. (Cancelled)

14. (Previously Presented) The process of claim 6 wherein, prior to sputter depositing ZnO in step d) an annealing step is performed at a temperature range from about 150°C to about 200°C.

15. (Previously Presented) The process of claim 7 wherein, prior to sputter depositing ZnO in step d) an annealing step is performed at a temperature range from about 150°C to about 200°C.

16. (Previously Presented) The process of claim 8 wherein, prior to sputter depositing ZnO in step d) an annealing step is performed at a temperature range from about 150°C to about 200°C.

17. (Previously Presented) The process of claim 9 wherein, prior to sputter depositing ZnO in step d) an annealing step is performed at a temperature range from about 150°C to about 200°C.

18. (Presently amended) A thin film ~~photovoltaic device~~ solar cell prepared by the process of claim 1 comprising a first layer of p-type $Cu(InGa)Se_2$ semiconductor having an n-type second layer of an evaporant species from zinc acetate dihydrate ~~a Zn compound that has been etched with acetic acid and sputter deposited with ZnO~~.

19. (Cancelled)